

ADASA INC.,)
)
Plaintiff,) No. 6:17-cv-01685-MK
)
vs.) July 13, 2023
)
AVERY DENNISON CORPORATION,) Eugene, Oregon
)
Defendant.)

BEFORE THE HONORABLE MUSTAFA T. KASUBHAI
UNITED STATES DISTRICT COURT MAGISTRATE JUDGE

Court Reporter: Ryan White, RMR, CRR, CSR/CCR
United States District Courthouse
1000 SW 3rd Avenue, Room 301
Portland, Oregon 97204
(503) 326-8184

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Q. Well, you have an understanding of what the term "intelligent hierarchy" means in the -- in this context; right?

A. It is defined or an example is given on page 240 of *RFID for Dummies* as we went over this morning.

Q. And that would, for example, include a number that encodes for a manufacturing facility, a production line, a production date, et cetera; right?

A. No. In fact, if you read the paragraph at the top of *RFID for Dummies* page 240, what that is actually describing is you're given a range of numbers, and then -- so one to a thousand, or 1 to 2,000. At the manufacturing facility the manufacturing facility will then say I have multiple lines, so for each line, I will assign numbers 1 through 1,000 for line 1, numbers 1,001 to 2,000 for line 2, and then they will operate, and that way you -- because you will record which line you're doing it on, standard practice, you will be able to know exactly which line a particular serial number was associated with, and

1 that's why I wrote effectively it subdivides. It doesn't
2 actually subdivide into a manufacturer line and subserial
3 number.

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21 Q. And you remember Mr. Sweeney testified about his
22 understanding of the meaning of the term "intelligent hierarchy"
23 in that portion of *RFID for Dummies*; correct?

24 A. Mr. Sweeney testified to that, I believe.

25 Q. Did you disagree with his explanation of that term?

1 A. I do not agree with Mr. Sweeney's explanation. I
2 believe that the text is very clear that you're giving a range
3 of numbers, and through that, because of that range, again, 1 to
4 1,000, 1 to 2,000, to a manufacturing facility, and then you can
5 break that up at the manufacturing facility, you give 1 to a
6 thousand for line 1, 1,001 to 2,000 for line 2. It's exactly
7 what I had in mind when I wrote that passage.

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C E R T I F I C A T E

I certify, by signing below, that the foregoing is a true and correct transcript of the record, taken by stenographic means, of the proceedings in the above-titled cause. A transcript without an original signature, conformed signature, or digitally signed signature is not certified.

DATED this 16th day of July, 2023.

// Ryan White

RYAN WHITE
Registered Merit Reporter
Certified Realtime Reporter
Expires 9/30/2025
Oregon CSR No. 10-0419
Expires 12/31/2023

1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE DISTRICT OF OREGON

3 EUGENE DIVISION

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5 ADASA INC.,)
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7 Plaintiff,) No. 6:17-cv-01685-MK
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9 AVERY DENNISON CORPORATION,) Eugene, Oregon
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Q. And when you first read Mr. McAllister's patent, you previously testified that you were rather surprised by what you read; correct?

A. I was surprised. He was looking at the problem very differently than we had been articulating and encouraging people to think about it.

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Q. Dr. Engels, this is the draft that you authored of the chapter of *RFID for Dummies*; correct?

A. That's correct.

Q. You wrote this before you had ever read Mr. McAllister's patent; correct?

A. That is correct.

Q. And a portion of this text is about using decentralized systems to avoid network connectivity issues; correct?

A. That is correct.

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A. So Mr. McAllister, instead of looking at it from the -- the digital perspective, he was looking at the problem of how do I ensure uniqueness of the serial numbers from the binary or the digital perspective, looking at the tag representation specifically, how do I assign serial numbers looking at that bit line representation as opposed to simply saying let me give you a range of numbers from 1 to a 1,000.

Q. You mentioned the ranges of numbers. Was ranges of numbers a popular representation prior to Mr. McAllister's patent in the RFID industry?

A. It was my experience that assigning a range of numbers to different manufacturing facilities or lines was, in fact,

1 very popular, very common prior to 2008.

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6 Q. When you first saw Mr. McAllister's patent, what was
7 your reaction to it?

8 A. I thought it was a very novel approach to solving the
9 problem. It's got some aspects of it that are really subtle
10 that we have not talked about that I found very interesting and
11 very appropriate for scalability and usability in a broad range
12 of context for RFID technologies.

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Q. And would you go ahead and continue with your explanation, please, sir?

A. Correct.

So when you start looking at ranges of numbers, again, because we tend to look in a decimal world, we would normally go, you know, maybe 0 to 9, if you're a computer scientist, you count from zero, but usually it's 1 to 10, and then 11 to 20, because we're counting in decimal and giving allocated ranges in decimal, and those all get converted into binary. The binary representations do not respect bit boundaries. If you're assigning decimal numbers that are human ranges, and then when you do the conversion to binary, there's no fixed most significant bits values unless -- you have to really choose your decimal numbers correctly, which is you choose your binary numbers, you then convert them to decimal.

1 But in general, we're looking at 1 to 10, 11 to 20,
2 and those will not have fixed most significant bits throughout
3 their entire ranges.

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Q. And so at the time that you helped develop the EPC, Dr. Engels, were you thinking about -- what were you thinking about the serial number space portion of an EPC?

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A. We were thinking it was just a dumb number.

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Q. And what do you mean by a dumb number?

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A. So a dumb number is -- it doesn't encode any information at all. It's just a number that is generated, does not get translated or otherwise encode anything. It's just the simple way would be to increment from 1, but you can increment by tens if you so wished.

19

Q. And what does that mean, increment? Can you give an example of what that would look like?

21

A. That's just the simple, you know, I go from the first item gets serial number 1, second gets serial number 2, third gets serial number 3, et cetera.

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Q. And why was the EPC teaching that type of serial number?

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1 A. Because, again, we were looking at storing all the
2 information, not in the tag itself because that increased the
3 cost of the tag, we were looking at storing all the information
4 about an item in the databases themselves. So you would look to
5 the database for any information about a particular item as
6 opposed to looking at anything that would be stored on the item
7 itself.

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Q. The problem you're describing in this time frame, did anyone have a great solution prior to May of 2008 for it?

MR. SECCO: Objection. Foundation.

THE COURT: Overruled.

THE WITNESS: The solutions, again, were all looking at the numbers themselves. Some companies had other issues, again, counterfeit issues. Some companies had great connectivity, and some had poor connectivity, and some had both, depending on where they were. So it really depended on the company. But all of the various versions that I was involved in were all versions of let me give you a range, and then let's increment through that range so that you can have enough to manufacture.

BY MR. ORMAN:

Q. And when you say "range," are you talking about

1 decimal bunches of numbers?

2 A. Everything was allocated in decimal numbers.

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20 Q. And is the -- you were talking about decimal ranges of
21 numbers. Is that what you were describing in that chapter of
22 *RFID for Dummies*?

23 A. Yes, it is.

24 Q. And why is that?

25 A. Because that's what we were doing at that time.

1 Again, the -- you know, I was looking at what we were we doing
2 to solve these problems. And, you know, it's not magic, I give
3 you a range of numbers and then you start allocating from that
4 range different ranges for different manufacturing production
5 lines. But, you know, again, not encoding information, storing
6 all that in the EPCIS, because there's a lot more information
7 you want to record, so you're going to do that anyway, so why
8 burden the number with any information. Again, sticking with
9 the philosophy is it's just a dumb number.

10 Q. So is it fair to say the solution that you wrote about
11 in *RFID for Dummies* didn't solve the real world problems you
12 were discussing?

13 A. It was simply that range of numbers solution.

14 Q. And did you think that when you contributed to *RFID*
15 *for Dummies* in 2005 that you had just disclosed a brand new
16 invention?

17 A. Absolutely not.

18 Q. Why not?

19 A. Because it was backwards looking. So, again, this is
20 what we were doing, we'll give you a range of numbers. From
21 that range, you'll start allocating other sub-ranges to your
22 various production lines.

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Mr. McAllister was looking at a very specific implementation in the RFID tags and how you do this with an encoder that's out in the field and may have very, very intermittent connectivity, so how do you manage that and ensure that uniqueness without compromising other aspects of the system.

Q. So how did Mr. McAllister, looking at the problems of the real world in a different way, influence what became his invention?

A. So ultimately, he was -- because he was looking at it from the low level, his solution is, well, if I create these blocks of numbers but I have most significant bits that are fixed, that allows me to assign those most significant bits to

1 an encoder that I could have on the floor for hand encoding,
2 which I believe was specifically where he was working, that was
3 the problem he was on at that time. So a mobile encoder, how do
4 I be able to allow this mobile encoder to operate not just with,
5 you know, one particular set of GTIN numbers and add a serial
6 number, but how could I allow it to work across GTIN numbers so
7 I can have it work with multiple products and maintain
8 uniqueness across multiple products.

9 So by having a fixed number of most significant bits
10 with a fixed value, and that value can differ for different
11 encoders, that would allow him to work independently as well as
12 maintain that uniqueness across those numbers.

13 Also, if you wanted to have that encoder encode, you
14 know, 64-bit EPCs and 96-bit EPCs and 198-bit EPCs -- we haven't
15 talked about those, but they exist too -- you could have that
16 same set of most significant bits, and you would be able to
17 maintain uniqueness of the number, but effectively, the serial
18 number that you assign is dependent upon the number of bits you
19 have in the serial number when you end up encoding it into the
20 RFID tag.

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A. Again, because you can take those most significant bits -- you've created a block with a fixed number of most significant bits. You can assign those most significant bits to a particular encoder, as he describes in the patent, and then that encoder now has a range of numbers and you can make the most significant bits, you know, a lot of them or a few of them, like eight, to give it trillions of numbers that it can encode. It can then operate continuously throughout -- throughout the lifetime without ever having to communicate back into the master network.

And whenever those numbers are seen out in the network somewhere, that is an RFID tag is read with those numbers, if you go back to the bit level, you can identify which encoder was actually using it and that encoder would be able to operate at multiple different -- so at 64-bit, 96, and 198 bits, all simultaneously with just that same number of and same value for most significant bits.

C E R T I F I C A T E

I certify, by signing below, that the foregoing is a true and correct transcript of the record, taken by stenographic means, of the proceedings in the above-titled cause. A transcript without an original signature, conformed signature, or digitally signed signature is not certified.

DATED this 17th day of July, 2023.

// Ryan White

RYAN WHITE
Registered Merit Reporter
Certified Realtime Reporter
Expires 9/30/2025
Oregon CSR No. 10-0419
Expires 12/31/2023

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF OREGON
EUGENE DIVISION

ADASA INC.,	)	
	)	
Plaintiff,	)	No. 6:17-cv-01685-MK
	)	
v.	)	July 17, 2023
	)	
AVERY DENNISON CORP.,	)	Eugene, Oregon
	)	
Defendant.	)	

TRANSCRIPT OF PROCEEDINGS

(Jury Trial - Day 5)

BEFORE THE HONORABLE MUSTAFA T. KASUBHAI
UNITED STATES DISTRICT COURT MAGISTRATE JUDGE

COURT REPORTER:

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(503) 326-8186
Kellie_Humiston@ord.uscourts.gov

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21 Q. And I guess I should start, we're going to be talking
22 about pages 238, 239, and 240, particularly the highlighted
23 sections that we'll get to in a minute that Mr. Brahma spent a
24 lot of time with you at. But from the top, does anything in
25 these three pages, 238, 239, and 240 of "RFID For Dummies",

1 disclose the novel invention in Claim 1 of the '967 Patent?

2 A. No, they do not.

3 Q. Does anything in pages 238 through 240 discuss or teach
4 to you, as one skilled in the art, most significant bits and
5 least significant bits?

6 A. No, it does not.

7 Q. Does anything in pages 238 through 240 in "RFID For
8 Dummies" teach an allocated block that contains most significant
9 bits?

10 A. No, it does not.

11 Q. So I know there's been a lot of jokes about what
12 Mr. Sweeney said about what the title "Getting the Digits" meant.
13 What does that say to you?

14 A. That to me -- I actually was not aware of the joke.
15 That meant simply that you were getting the decimal number for
16 the various serial numbers that you have.

17 Q. And do these three pages talk about decimal
18 representations or binary representations, in your opinion?

19 A. They're decimal representations.

20 Q. And why do you say that?

21 A. Again, because it's talking about the EPC number
22 broadly speaking. It's not talking about a particular encoding
23 of that in the RFID tag. It's looking at just the number itself.

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1 Q. And what were the proven methods for managing numbers
2 at the time when you wrote this chapter?

3 A. They included the central authority, and then later
4 allocating or otherwise assigning broad ranges to a particular
5 manufacturing facility or a particular manufacturing line.

6 Q. And is that the process and the proven method that you
7 describe later in the chapter?

8 A. That is.

9 Q. Let's take a look at the bottom of page 239 that I've
10 highlighted here. And I believe you touched on this part in one
11 of your last answers here about the problem, but it says, "An
12 always-accessible central numbering authority isn't practical for
13 many companies. These companies can use an intelligent hierarchy
14 imposed on the serial number allocation to decentralize and make
15 feasible the allocation of unique serial numbers across all
16 manufacturing lines." Do you see that, Dr. Engels?

17 A. Yes, I do.

18 Q. What does that mean?

19 A. That simply means that by assigning ranges, and
20 actually the next page is where I describe giving an example of
21 this hierarchy, so you can assign a range of numbers to a
22 manufacturing facility, the manufacturing facility can then
23 assign portions of -- within that range to different
24 manufacturing lines. That allows you to have this allocation
25 hierarchy by simply assigning ranges of numbers from a

1 manufacturing facility and have them manage the allocation of
2 those numbers to the various manufacturing lines within that
3 facility.

4 Q. Did you provide an example of that on the next page,
5 Dr. Engels?

6 A. I believe that's exactly what's described on the next
7 page.

8 Q. Okay. So let's take a look at that. And up at the top
9 here, it says, "Here's a simple example of a decentralized
10 hierarchical approach to allocating serial numbers", and then you
11 go on to describe one. Do you see that Dr. Engels?

12 A. Yes, I do.

13 Q. And how about that second sentence that starts, "A
14 range of serial numbers for each product is allocated to each
15 manufacturing facility"? What is that describing?

16 A. That's simply giving a range of numbers, so 1 to 1,000
17 to manufacturing facility 1, 1,001 to 2,000 to manufacturing
18 facility 2.

19 Q. And that is what was being used in the technology in
20 the RFID industry at the time?

21 A. And that's what we were doing in 2004 at that time.

22 Q. Is that what the industry was -- well, let's go to the
23 next sentence. It says, "Within a facility, a range of numbers
24 from those allocated to the facility is allocated to each line
25 producing a particular product." Do you see that?

1 A. Yes, I do.

2 Q. And what's that describing?

3 A. So that's describing manufacturing facility 1, the
4 number is 1 to 1,000, I might -- if I've got two manufacturing
5 lines, I might allocate 1 to 500 to manufacturing line 1 and 501
6 to 1,000 to manufacturing line 2.

7 Q. And when you say giving one line 1,000 -- or 1 to 1,000
8 and then 1,001 to 2,000 to line 2, is that what you meant by "a
9 range of numbers" here?

10 A. That is correct.

11 Q. And how -- what representation would those range of
12 numbers be?

13 A. We would typically be using decimal.

14 Q. And why is that?

15 A. Because that was the language that we were assigning at
16 that time and using, and still use today.

17 Q. Let's look at the next sentence, Dr. Engels. It says,
18 "In this way, the serial number is effectively subdivided into a
19 facility number, line number, and subserial number, in which the
20 allocation hierarchy is maintained between facility number and
21 line number." Do you see that sentence?

22 A. Yes, I do.

23 Q. And you were asked quite a few questions about that
24 particular sentence by Mr. Brahma when they had their chance to
25 talk to you. Do you recall that?

1 A. Yes, I do.

2 Q. So let's talk about specifically what this sentence
3 means and what it meant to you. What did you mean when you
4 wrote, "...the serial number is effectively subdivided into a
5 facility number, line number, and subserial number..."?

6 A. So when you have a manufacturing facility, so give
7 it -- allocated of the range of 1 to 1,000, and then within two
8 different lines, it might allocate 1 to 500, 501 to 1,000 on
9 those two different lines, by doing that hierarchy, you're going
10 to record all of that information into your databases.

11 So you will know that you manufactured this product at
12 this facility on this particular line based upon the serial
13 number itself; that is, you would go into the database, use the
14 serial number as a point range of that database, get the
15 information that you store there, and it'll say manufactured at
16 this particular date, this particular line, this particular
17 facility.

18 The number itself is just a dumb number, as we were
19 advocating at that time. There was no information encoded in the
20 number itself. All that information is contained in the
21 database. And that's why it's, I said, effectively, not
22 actually.

23 So you would effectively get this hierarchy, because
24 you are maintaining that information in the database, but you've
25 got this intelligence. The manufacturer will allocate to the

1 various lines -- manufacturing facility, I should say, will
2 allocate to its lines and manufacturing, too, will allocate to
3 its line, and by this way you maintain an allocation hierarchy.

4 Q. How is the effective subdivision that you're describing
5 here different from Claim 1 of the '967 Patent?

6 A. So Claim 1 of the '967 Patent, again, looking at a bit
7 level, not a decimal level, with most significant bits, so we
8 were looking at not just really large numbers, we were looking at
9 numbers that are going to be encoded in a particular location
10 within an RFID tag, not just a range of numbers like 1 to 1,000,
11 and because of that, we are looking at having a number that we're
12 going to pull out of a particular block, and it's going to be a
13 very large block of numbers typically.

14 Q. And so is it safe to say, Dr. Engels, that what you've
15 written here on page 240 does not teach a binary data field?

16 A. No, this does not teach a binary data field.

17 Q. Does it teach most significant bits in the way that
18 that phrase is used in Claim 1 of the '967 Patent?

19 A. It does not teach most significant bits.

20 Q. And does it teach least significant bits?

21 A. It does not teach least significant bits.

22 Q. Does it teach an allocated block of most significant
23 bits?

24 A. No, it does not.

25 Q. And the rest of that sentence says, "...facility

1 number, line number, and subserial number, in which the
2 allocation hierarchy is maintained between facility number and
3 line number." Do you see that?

4 A. Yes, I do.

5 Q. Is that part of the sentence describing most
6 significant bits in any way?

7 A. No, it is not.

8 Q. Why not?

9 A. It's, again, referring simply to information that would
10 be maintained in your database. And the number itself is not
11 described in terms of a bit-wise representation of it. It's
12 simply a range of numbers from which you are pulling out
13 different sub ranges to be able to allocate in a hierarchical
14 fashion, as I described, manufacturer to product line.

15 Q. And so even using the terms "subdivided, facility
16 number, line number, and subserial number," that to you, as one
17 skilled in the art, doesn't equate to the technology that's been
18 disclosed to Claim 1 of the '967 Patent?

19 A. No, it does not.
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22 Q. So, Dr. Engels, after reviewing "RFID For Dummies" and
23 the portion -- at least the portions that we just discussed
24 there, did that help you form your opinion on anticipation and
25 whether or not "RFID For Dummies" anticipates Claim 1 of the '967

1 Patent?

2 A. It does.

3 Q. And what was your ultimate opinion based on that
4 review?

5 A. Based on my review of "RFID For Dummies", it does not
6 teach Claim Elements E or F of Claim 1 of the '967 Patent and,
7 therefore, does not anticipate Claim 1 of the '967 Patent.

8 Q. Because all of the elements would need to be disclosed
9 in "RFID For Dummies" in order for it to anticipate. Is that a
10 fair statement, sir?

11 A. Correct.

12 Q. And how about an opinion on obviousness related to
13 "RFID For Dummies"? Do you have an opinion on obviousness?

14 A. Yes.

15 Q. And after reviewing "RFID For Dummies", what is your
16 opinion about whether it renders Claim 1 of the '967 Patent
17 obvious?

18 A. "RFID For Dummies" does not render Claim 1 of the '967
19 Patent obvious.

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17 Q. So your theory is that the decimal numbers are
18 concatenated and then translated into binary, right?

19 A. The tag data standard specifically specifies that
20 that's how you generate the code that will be written to the RFID
21 tag and that's how the binary data stored in the RFID tag will be
22 interpreted.

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A. Again, because as I keep saying, the tag data standard, which governs how you will generate the binary representation of an SGTIN-96, says that you take the decimal number in its entirety, treat that as a single number, translate that into binary form, because it also says that when you take a binary number that you've read out on an RFID tag, you treat that entire sequence of bits as one number and you interpret that, or translate that, from binary to decimal.

C E R T I F I C A T E

I certify, by signing below, that the foregoing is a true and correct transcript of the record, taken by stenographic means, of the proceedings in the above-entitled cause.

A transcript without an original signature, conformed signature, or digitally signed signature is not certified.

DATED this 27th day of July 2023.

/s/ Kellie M. Humiston

Kellie M. Humiston, RMR, CRR
Official Court Reporter
Certificates Expire: 9/2024